

A distinct personality in the perimeter of contemporary Romanian painting is Dan Hatmanu (born in Iasi in 1928). He made his debut under the influence of his professor Corneliu Baba, preserving therefore the same characteristic sobriety, the same predilection for the chiaroscuro, the same care for the treatment of the faces. In his subject paintings, the artist appears a sensitive observer of life.

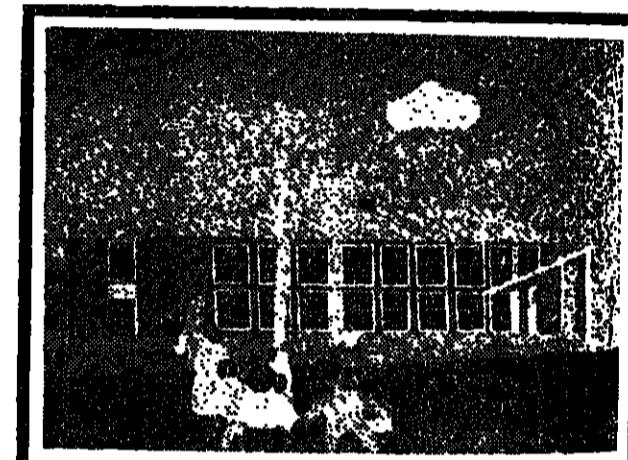
Excellent in the portrait technique, Dan Hatmanu demonstrates an other sense of monumentality and movement. Petru Comarnescu noted, "a perceptive analysis of human psychology, who can interpret inner life and defining human traits".

Dan Hatmanu slowly outgrew his early realism to reach synthetic visions in the last few years.

Always looking for new forms of expression, sometimes inclined towards excessive stylizations, the artist shows a propensity for portraits sometimes overdone to the point of grotesqueness, and a protean interpretive power.

In a remarkable fluidity of the lines, Dan Hatmanu seeks equilibrated relations between the figurative elements and the surrounding space, treated more often than not. A noble spirit, endowed with a fecund fantasy, the painter brings into Romanian art an individual note characterized by the painting of essences. Having lived through all the experiences of modern art and reached the maturity of his artistic work, Dan Hatmanu proposes to us an original meditation, a philosophical vision of man and his condition.

CORNELIU BARAN



On this page: Self-Portrait; Children's Gymnastic Field (top); The New School of Suceava; Lung-Tine (right); Old Houses in Iasi; Young Pioneers on May Day (bottom); Athens-Acropolis, Aerial Geometries (left).



## ROMANIAN NEWS

INFORMATION AND COMMENTARY  
WEEKLY PUBLISHED BY  
THE ROMANIAN NEWS AGENCY  
AGERPRES

IN ENGLISH AND  
FRENCH. Editorial and  
informational office: 1, Bd.  
Schei, Bucharest, 17860. Foreign  
subscribers: Bureau ROM-  
PRESSUATORUL, 1000  
Import Department,  
12-201, Bucharest, 10100.  
Bucharest, 01-28, C.R.D.

# ROMANIAN NEWS

INFORMATION AND COMMENTARY WEEKLY PUBLISHED BY THE ROMANIAN NEWS AGENCY AGERPRES

## UNDER THE SIGN OF SOLIDARITY, PEACE AND COLLABORATION THE OFFICIAL FRIENDLY VISIT OF NICOLAE CEAUȘESCU AND ELENA CEAUȘESCU TO KENYA AND TANZANIA

Over September 5-7, President Nicolae Ceaușescu together with Elena Ceaușescu paid an official friendly visit to the Republic of Kenya, at the invitation of that country's president Daniel Toroitich arap Moi.

The visit — the first paid by a Romanian head of state to Kenya — goes down as an important moment in the development of the friendship and collaboration relations between the two countries, while also standing for a new and eloquent expression of Romania's active foreign policy of broad openness and collaboration with the African countries, with all the world's states.

The President of Romania, Nicolae Ceaușescu conducted official talks with the President of the Republic of Kenya, Daniel Toroitich arap Moi, which passed in a cordial atmosphere of understanding: an integral analysis was made of the political situation in the two countries, the Romanian-Kenyan links of friendship and cooperation on the political, economic, scientific, technical and cultural planes. During the talks, Nicolae Ceaușescu and Daniel Toroitich arap Moi expressed their full satisfaction at the development of the relations of friendship and collaboration between Romania and Kenya on the basis of the principles of equality, mutual respect and complementarity, as well as in the framework of the joint economic and technical cooperation agreement on the long-term development of economic and technical cooperation, signed in Bucharest on September 9 1987. Furthermore, the determination of the two sides was expressed to finalize negotiations on the building of economic units after the opening of the first session of the Joint Romanian-Kenyan commission of economic and technical cooperation of January 1988.

The President of Romania and the President of Kenya decided to expand bilateral links and meetings at governmental and parliamentary levels, as well as on a party line between the two countries.

Examining the latest political, economic and political situation of the Romanian-Kenyan ties, on the political, economic, technical and scientific planes,

During the talks, emphasis was placed on the joint wish to work for a further expansion and diversification of the Romanian-Kenyan ties on the political, economic, technical and scientific planes.

Special attention was paid to bilateral economic relations. The need was underscored to further boost commercial exchanges, an equitable exchange as well as economic cooperation in line with the programmatic agreement on the long-term development of economic and technical cooperation and of commercial exchanges, signed in Bucharest on September 9 1987. Furthermore, the determination of the two sides was expressed to finalize negotiations on the building of economic units after the opening of the first session of the Joint Romanian-Kenyan commission of economic and technical cooperation of January 1988.

The President of Romania and the President of Kenya decided to expand bilateral links and meetings at governmental and parliamentary levels, as well as on a party line between the two countries.

Examining the latest political, economic and political situation of the Romanian-Kenyan ties, on the political, economic, technical and scientific planes,

(cont. on p. 3)



Over September 7-9, President Nicolae Ceaușescu together with Elena Ceaușescu paid an official friendly visit to the United Republic of Tanzania, at the invitation of that country's President Ali Hassan Mwinyi and Siti Mwinyi.

The new Romanian-Tanzanian summit meeting represents a major event in the chronicle of the ties of friendship and collaboration between Romania and Tanzania likely to confer new dimensions and a richer content on the collaboration on multiple planes between the two countries and peoples. The visit is also an eloquent evidence of Romania's and Tanzania's will to further expand their bilateral relations, to make an active contribution to the settlement of the great problems facing mankind, to entrenching a climate of detente and peace, understanding and cooperation in the world.

During the talks, the two presidents outlined to approach aspects of the development of the political, diplomatic, economic, scientific, cultural and other fields of common interest, benefitting both countries and peoples, viewing their progress and prosperity, the cause of peace, understanding and cooperation among nations.

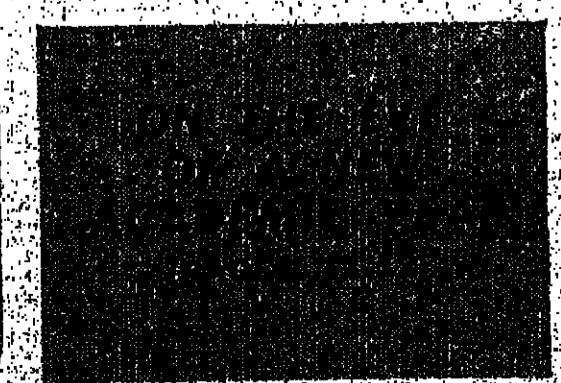
As part of the exchange of

expansion of the collaboration between Romania and Tanzania in the political, diplomatic, economic, scientific, cultural and other fields of common interest, benefitting both countries and peoples, viewing their progress and prosperity, the cause of peace, understanding and cooperation among nations.

(cont. on p. 3)



**EVIDENCE  
LOVRIN:  
STEADFASTNESS  
AND MODERNIZATION**  
(PAGES 7-8-9)





AN EXPRESSION OF THE INDUSTRIAL POTENTIAL  
AND TECHNOLOGICAL STANDARD

## THE CAR INDUSTRY

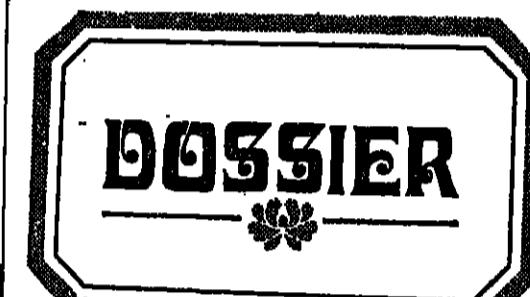
TECHNICAL TRADITION IN THE CONTEXT OF INTENSIVE DEVELOPMENT • A CONTINUAL PROCESS OF PRODUCTION MODERNIZATION • FROM LICENCE IMPORT TO ORIGINAL CREATION • AN EXTENSIVE RANGE OF UTILITY VEHICLES • THE "ARO" ALL-TERRAIN CAR, THE "AUROCHS OF THE CARPATHIANS" • "DACIA" AND "OLTCIT" ON ALL CONTINENTS

Romania has at present an important technical and productive potential in the domain of motor vehicles: trucks, buses, microbuses, trolleybuses, utility vans, tip lorries etc., as well as DACIA and OLTCIT city cars and ARO all-terrain cars.

The production of transport vehicles in Romania started some three decades ago when the first Romanian-designed trucks in the "Carpați" and "Bucegi" range were manufactured in Brașov. At the same time, the first buses were made in Bucharest, and the first all-terrain cars M-57 at the mechanical works in Cîmpulung Muscel. All these were based on Romanian designs.

From the first Romanian trucks, with classical gasoline engines and capacities of three and five tons, we are manufacturing today powerful and modern trucks, equipped with Diesel engines ranging be-

tween 135 and 360 HP and capacities varying between six and 34 tons, fabricated in Brașov, or tip lorries of big capacities (of 27, 55 and 110 t) equipped with powerful engines (of 360, 610 and 1,230 HP respectively) produced by Mirsa mechanical enterprise.



The car and truck building branch has known a diversification of types introduced in fabrication in the last two decades. On page 4: aspects from field tests of ARO all-terrain car (top) and a new variant of ARO car made by the specialized enterprise in Cîmpulung Muscel (middle); a new type of DAC factory (bottom). On page 5: the 120 ton DAC tip lorry manufactured by the enterprise in Mirsa town (top); DACI pick-up truck, coming out of the fabrication line (middle); ROCAR 105 and DAC-114-UD bus for tourism (bottom).

## THE TRUCK ENTERPRISE

The Brașov Truck Enterprise is currently among the most modern and powerful productive units in Romania. Its present development level is the result of continued industrial tradition, and of the preoccupation for the modernization of the technical equipment and of its manufacturing profile implicitly.

The serial production of transport vehicles started, at the Brașov works, in the mid-1950s, when the first trucks of Romanian design, bearing the "Steagul Roșu" mark came out of the assembly lines. With a capacity of three tons, this model could be easily maneuvered and set from the very beginninging a high standard of production and of the user's satisfaction. Using the chassis of this first truck, the fabrication plant of the enterprise broadened in a short time, including tip lorries, road tankers, buses and trolleybuses.

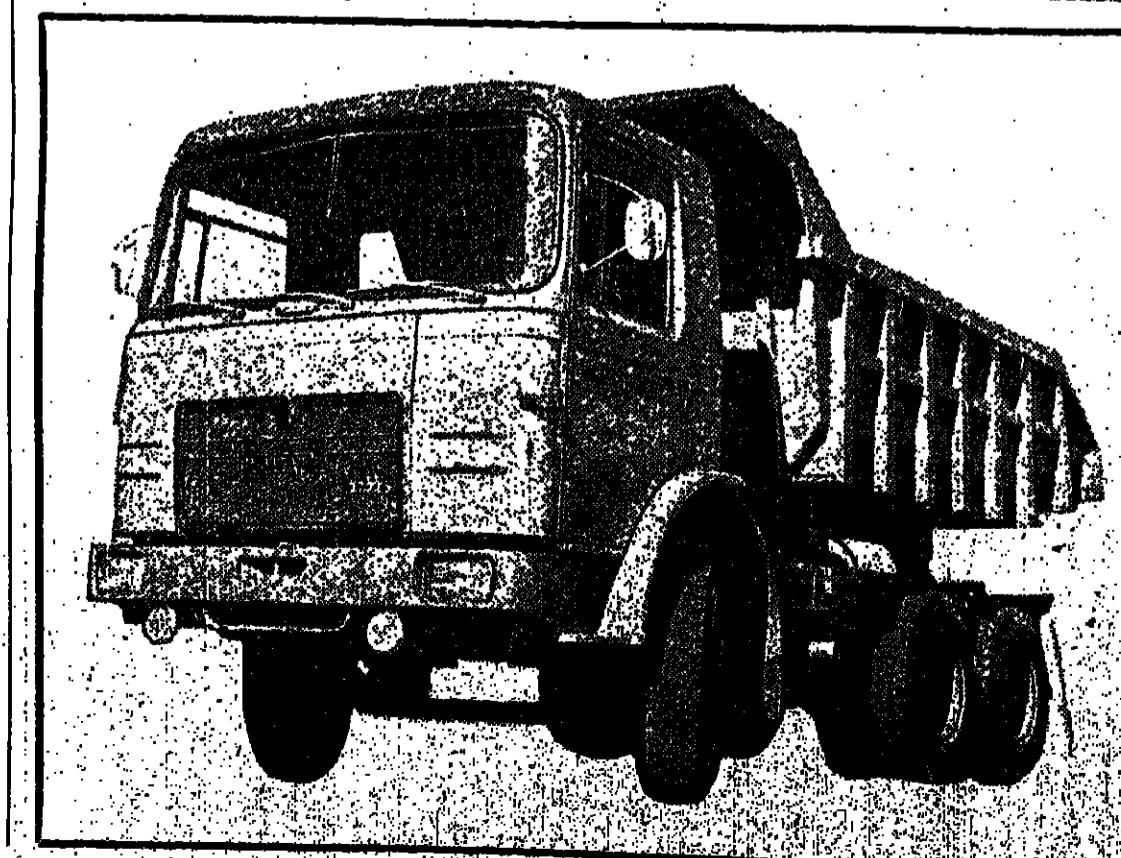
The dynamic evolution of the Romanian economy and the domestic and foreign market demands referring to the reduction of fuel consumption, the increase in the comfort degrees offered by the cabin, the modernization of design determined the manufacturing of the second truck generation produced here. These were motor vehicles with a payload of five tons and their derivatives: tractors and tip lorries - that went into production in 1962.

In the following period, the increased potential of the national economy allowed the initiation of cooperation ventures with renowned firms in the production of transport means. One of the concrete examples is the cooperation with the West German MASCHINENFABRIK AUGSBURG firm within the MAN concern, from which we bought the license of the very economical Menner combustion method. Thus was born the third generation of Romanian trucks, marketed under the ROMAN trade mark. Based on the diversification of the range of this type of trucks, fitted with Diesel engines of 135, 154, 215 and 238 HP, new models were created with integral traction, having between two and five axle base variants. The number of the ROMAN vehicles mounting specifications surpassed 1,500 at that moment, which, in addition to other things, to the improvements of these trucks' technical performances, reduced specific



fuel consumption in the conditions of higher engine capacities compared to the previous generation; the adoption of new technological solutions on a world level for the respective period — the chassis made of low-hardening steel, the clutch with suspension bumpers, progressively coupled and with hydraulic control, 12-speed synchronized gear box.

The experience accumulated in over two decades of transport vehicle production, the technical equipment of the enterprise with high-precision and highly productive installations, and the acquisition of a valuable research and design potential in the field allowed the Brașov producers to make a series of unanimously appreciated improvements of the trucks being built and to prepare the production of the fourth generation of Romanian trucks. Thus, the electric and braking equipment were mod-



ernized, suspensions with rubber springs designed to assimilate in proportion to suction and evaporation, the engine was bettered, the reliability and installations reliability improved, other beneficial changes were made. In order to ensure the Romanian vehicles' technical superiority, corresponding international tests were conducted.

At the same time, there was the range of vehicles of the 8 X 4, 8 X 8, 8 X 8 formulae, both single and superimposed, made. All these allowed passing to the next generation of trucks — available also in the all-terrain version, or in the range of road tankers, mixers, self-propelled organs, tank trucks, refrigerators, street sweepers, tractors and trailers, vehicles for transports and for industrial application.

In 1974, these vehicles in the area of design and production units, under the condition of the first time, for the first time, were delivered to the USSR, under the name of A.S. They are still used in the Soviet Union, where they have been used for more than 10 years.

After the first delivery, the

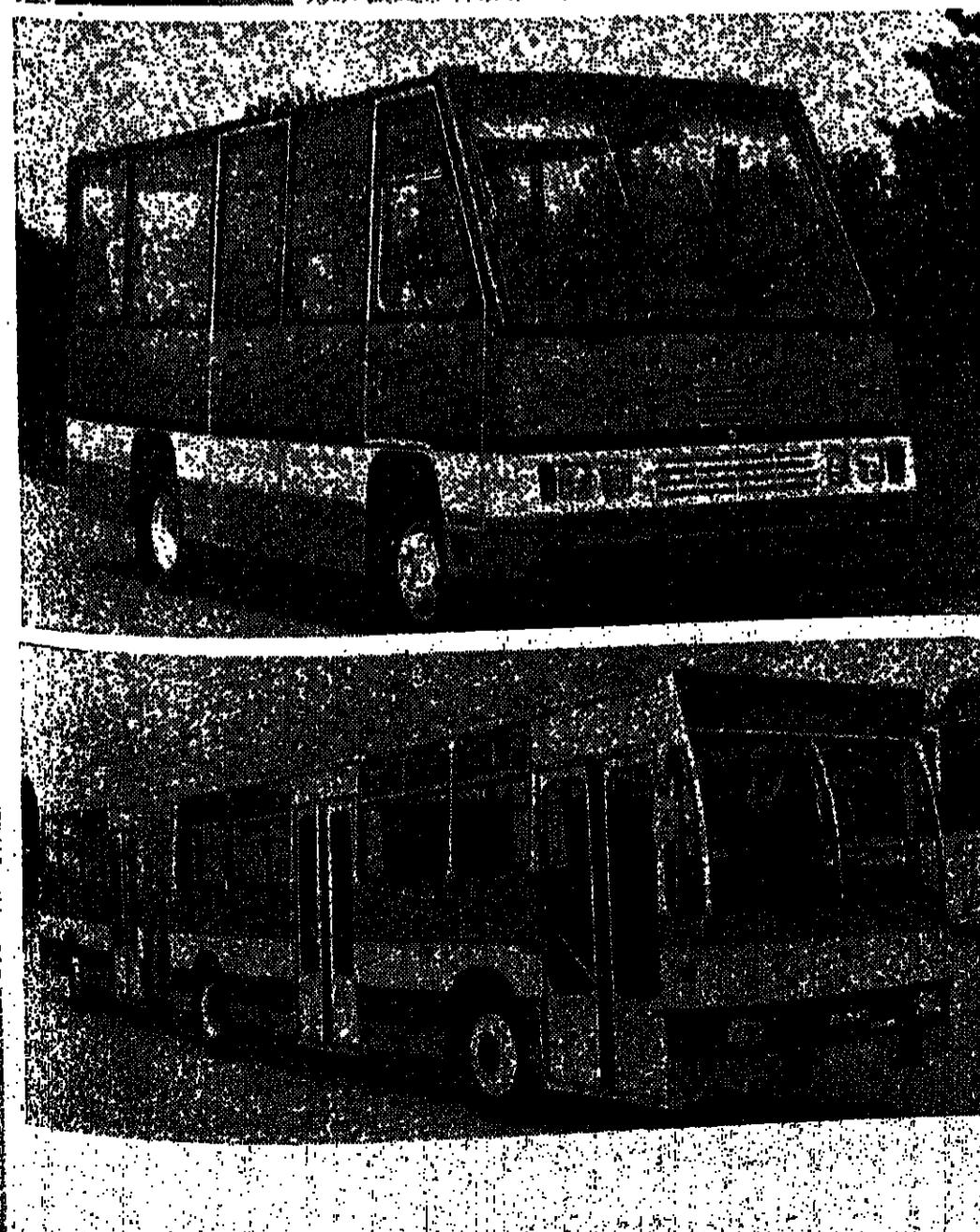
## COMPETITIONS, STANDINGS, PRESTIGE

In the autumn of 1984 the team driving three Romanian-made DACIA cars placed first and claimed the Silver Cup in the Tour of Europe motoring competition, and two other Romanian cars also came first in the same important race in the 1300 cc and 2000 cc events, respectively.

At about the same time, the Pharaohs' Rally (a major international confrontation held in the land of the pyramids, which brought together the most famous all-terrain car makes in the world), as well as the Algerian motor rally were emphatically won by a Romanian ARO jeep-type car.

One year later (1985), the DACIA car scored remarkable successes in two strong competitions: first place (1300 cc) in the Portuguese Rally — Greece; in 1987 second and third places (1300 cc) in the Winterschleife, West Germany (a European championship event); first, second and third places (1300 cc) in the Tour of Europe motoring marathon since 1978.

The OLTCIT car has also burst spectacularly upon the auto scene: entering domestic races for the first time, it has won Romania's rally championship.



China alone. This means that the number of exported trucks could form a more than 9,000 km long line, and the power of their engines would total 150 million HP.

The products of the Brașov enterprise are exported by the UNIVERSAL AUTOTRACKER foreign trade enterprise. They are ROMAN and DAC trucks, classics and tractors whose payloads range between 5 and 40 tons and whose Diesel engines develop between 135 and 360 HP. Apart from exports, the enterprise is involved in the supply of the economy of the socialist countries. Thus, the enterprise makes technical tests and demonstrations as part of the worldwide homologation of products, ensures service activities through its own networks, spare-part warehouses and specialized centers, as well as co-operation, technical assistance, deliveries of licences, technologies or know-how.

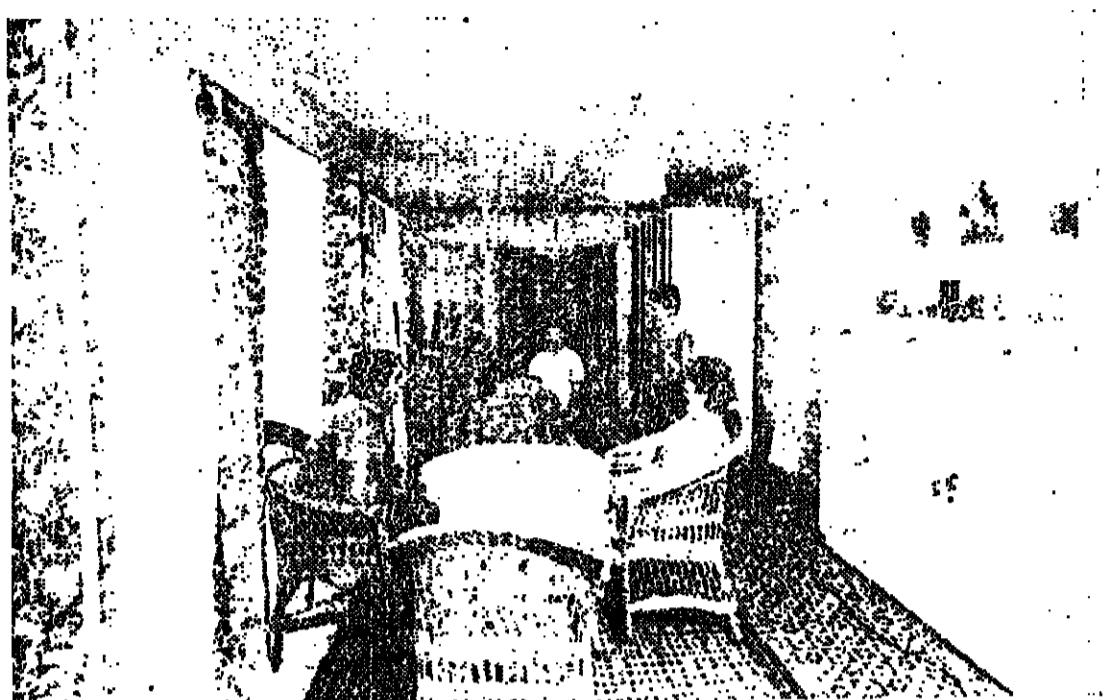
## IN THE BEGINNING THERE WAS M-57

That was the name of the first Romanian all-terrain car made in the Mirsa mechanical enterprise in Cîmpulung Muscel. It was an off-road vehicle, with a classical gasoline engine. At present the enterprise in Arges county turns out more than 20 types and variants of all-terrain vehicles, such as the 4x4-240 and ARO-114, produced in more than three decades. The world's biggest producer, with annual sales of 278,000 all-terrain vehicles, of which over 200,000 have been exported to more than 70 countries on all continents.

In this interval, the mentioned enterprises have developed and modernized considerably and the range of their products has been greatly expanded on the basis of the M-57. Three years after the launching of the M-57 and M-61 models (between 1971-1970), the ARO-34, ARO-35, ARO-36, ARO-37, ARO-38 and ARO-39 cars (with Diesel and Diesel

(cont., p. 5)





**1** To agricultural engineer Ioan Brată, housing was not a problem, he said. He returned to his native village last summer, where he is currently working at the cooperative farm, living in his father's house — a solid, if old, house providing two rooms for his three children.

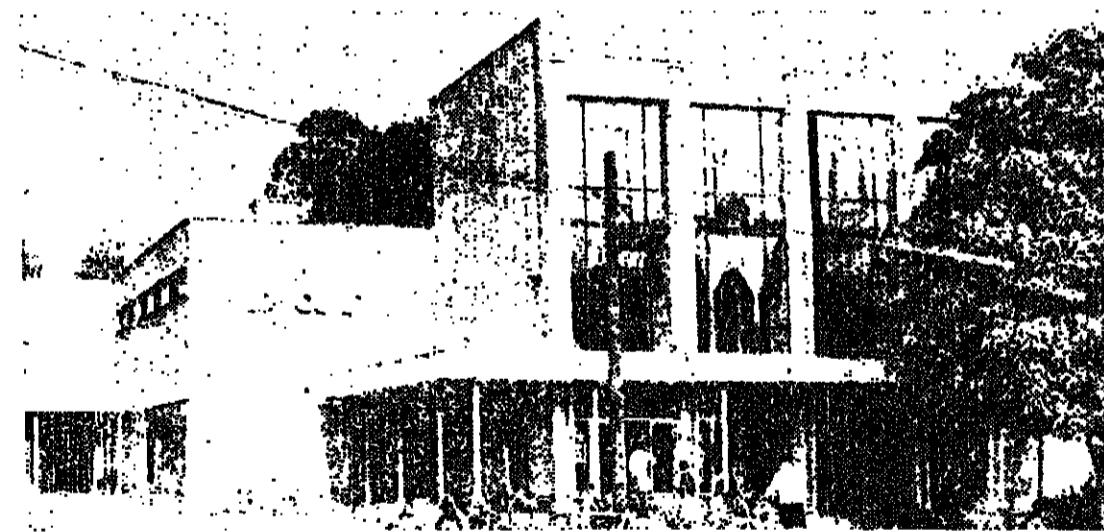
**2** Even in an old house, as engineer Ioan Brată's is, the house can be modestly fitted and arranged according to both functional and aesthetic criteria, in keeping with the wife's wishes.



**3** This is what one of the houses built in the last few years in Lovrin looks like. The type of two-storied dwellings seem to be most favoured in the rural villages. Generally these houses are surrounded by a vegetable garden or an orchard.

**4** The thermal water captured at Lovrin also boasts therapeutic principles. That is why the locality fathers have set up a small yet elegant recreation and medical treatment centre. Among the 13 physicians working in the community there are two specialists who can prescribe individual cures. Nearby the foundations of a small hotel are being laid.

**5** The peasants of Gottlob are wheat and barley growers. In their own gardens most of them grow vegetables. Some, however, prefer melons...



**6** The plots of land on either side of the highway can be reclaimed for agriculture. So every villager grows in front of his house what he believes to be worth it, especially vegetables. The products obtained meet entirely the family's needs.

**7** The only two- and three-storyed buildings are those definitely in the course of the future style centre. On the ground-floor there are shops and handicraft workshops. Even with these constructions the architectural line used is in full harmony with the traditional construction style. Such is the case for instance of the group of buildings on the left.

**8** The kindergarten of Lovrin has a Romanian language section and a German language one. But the language of children's games makes them spend most of their time together.

**9** Gheorghe Ion was a farmer, a member of the cooperative farm in Lovrin. For several years now he has been a pensioner. Even if he no longer works in the field, he is still strong enough to look after his farmstead. His old house, very well kept up, is in no way lesser than the two-storied houses around it.

**10** One of them is that built recently by Mihai Teofan, a farming merchant at Lovrin. It is a large house meeting the needs of his numerous family. Mihai Teofan and his wife are mighty proud of their house.

**11** Industrial professions are often related to agricultural works. In Gottlob community there is a big farm machine station (SMA) executing all field works within Lovrin joint stock and cooperative agricultural council. This office includes six peasant cooperatives and two state farming enterprises which together hold over 30,000 ha. SMA Gottlob is equipped with a whole range of machines that ensure the continuous flow of works.

In our photo, the high power (1,800 hp) tractor in the yard room organised like a small factory.

Photopage by MIHAI ALEXANDRU

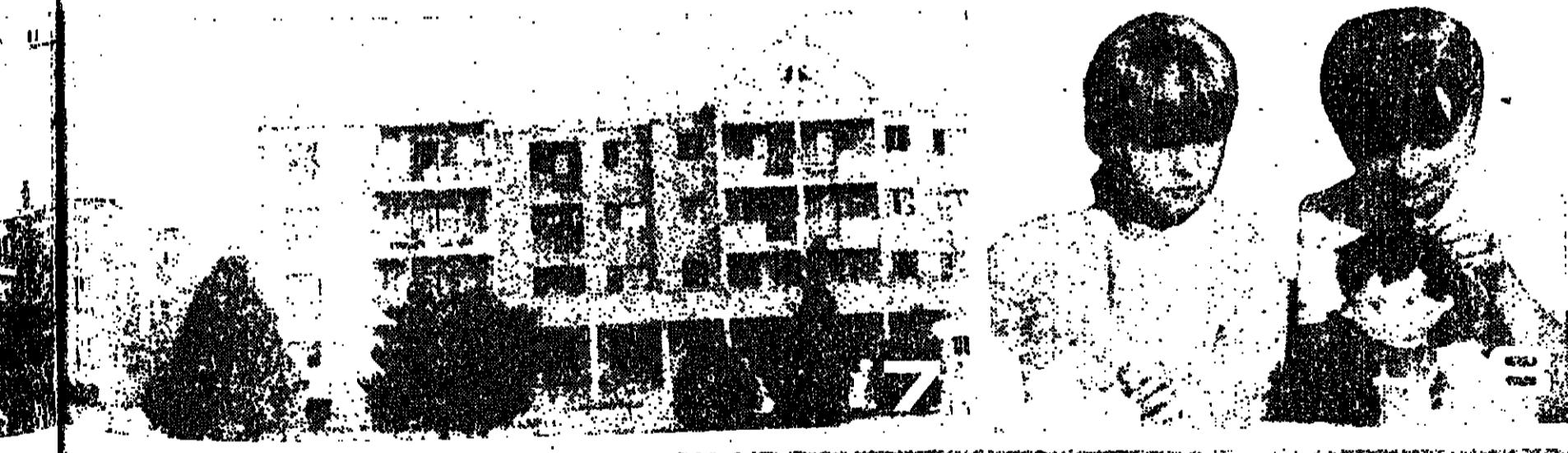
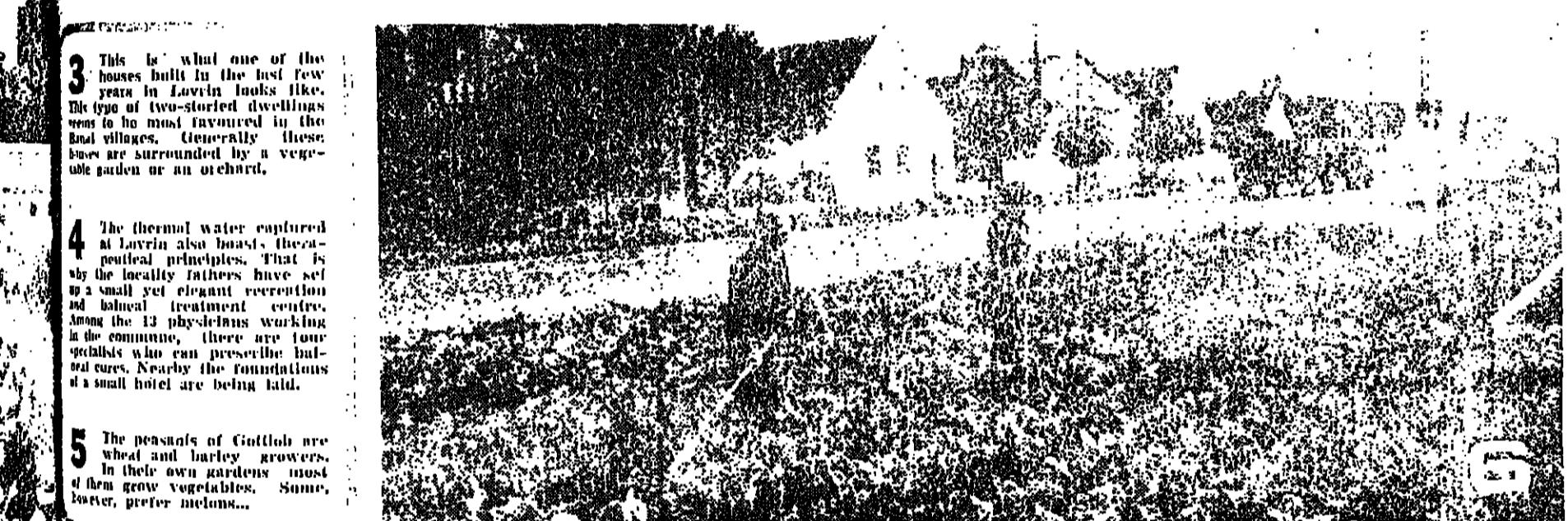
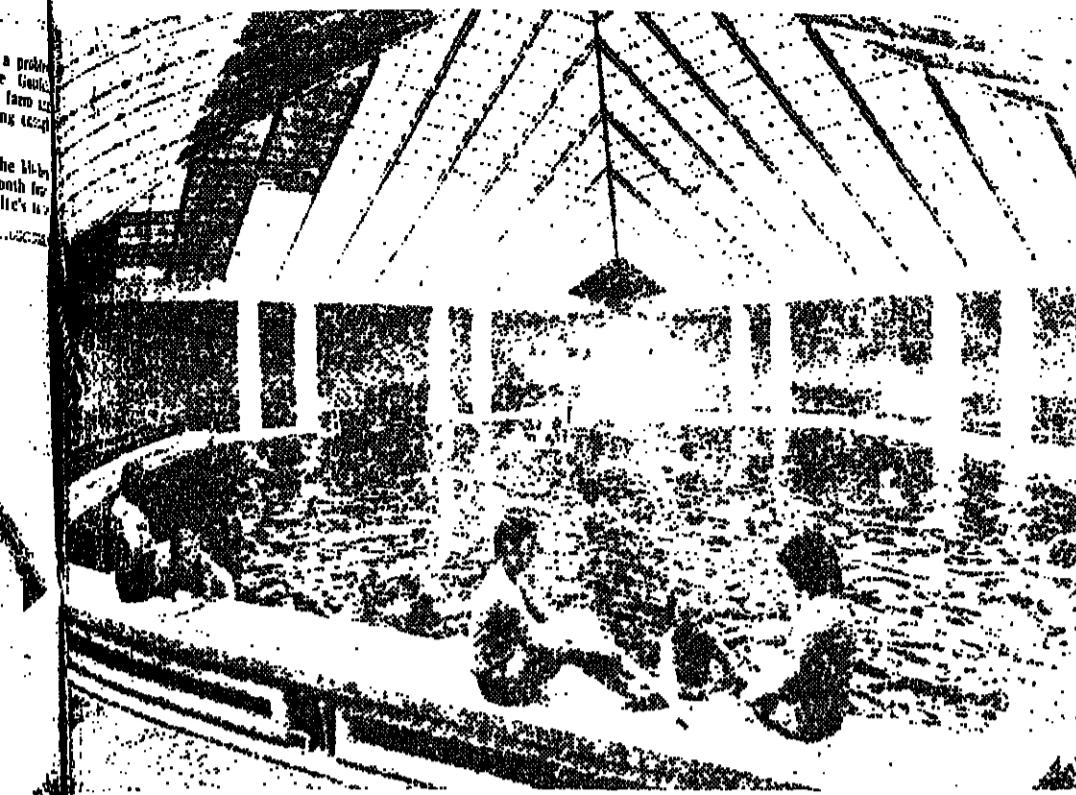


Photo: MIHAI ALEXANDRU

## MILLIMETRES AND TONS

A new product with special technical performances was made at the Bucharest Machine-Tools and Aggregates Enterprise — the Sc 33 vertical lathe — which can execute boring, milling, lathe, broaching and cutting operations. The lathe is digitally controlled, which allows the performance of complex profiles and contours. The 80-ton machine can be used in complex or finishing operations allowing exterior, interior lathe or frontal and channel processing. Tools are automatically supplied by means of two magazines of 10 posts each. Among the lathe's performances mention should be made of the possibility to process parts with diameters up to 3,000 mm and a weight of 50 tons.



### THE BUCHAREST UNDERGROUND: ONE BILLION PASSENGERS

One billion people from Bucharest and all over the country have enjoyed the services of the fastest and most modern transportation: the underground in the Romanian capital. This is a true record if we think of the fact that it has been set in less than nine years since the first segment of the underground was completed.

As you know, the Bucharest underground has at present two mainlines (with a total length of 50 km) which connect the main industrial areas and the residential districts of the city. The 10-km third mainline is in a forward stage of completion, and is expected to be put into service in the second half of next year.

### ...SICORA

...is the name of an underground train driven by a motor which increased traffic security through checking of technical operational conditions and its absence of passengers. The protection of the train against skidding or locking. Moreover, special devices periodically record the data of the train's progress with a view to continually checking conditions along its route — useful data for fast repairs and overhauls.

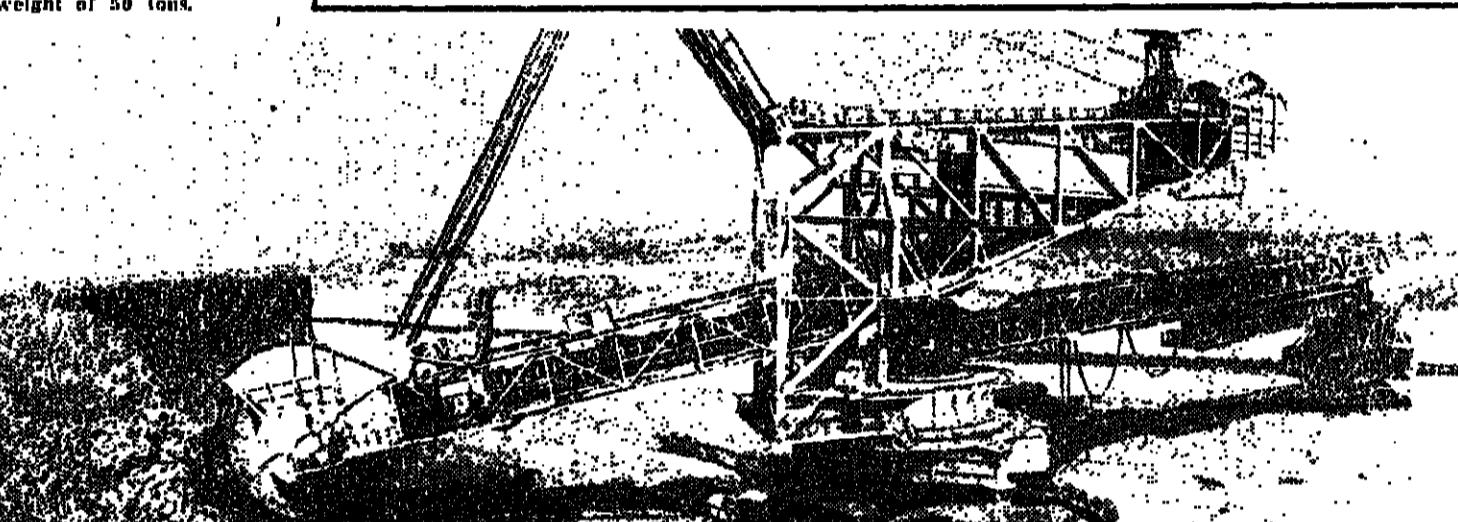
Underground trains started to be built after the 10 years ago at the Arad railway car enterprise. Several series of such trains have been made ever since. Two new underground car assemblies and welding lines have lately been set up at Arad in the purpose of updating these products.

M. CONSTANTIN



### LAND RECLAMATION WORKS

Specialists of the Bucharest Enterprise for Land Reclamation Works are in finished works for big dikes in the Năeniști-Băile Herculane-Grohotin area, with an area of 30,133 ha. The water supply and distribution networks are 58.3 km long and are provided with 27 pumps. A water flow of 23 cubic m per second is guaranteed for irrigation. At the same time, the contractors ended works on a big canal decreasing the Budești area with a view to irrigate 15,000 ha in the Făurei-Ialoveni area.



## TECHNOLOGICAL FIRSTS

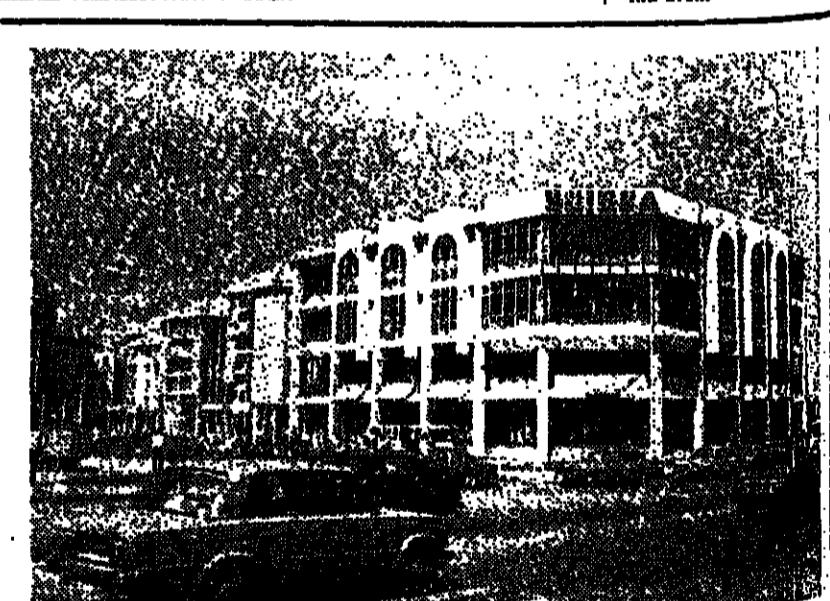
Production technologies are modernized at the Rîmnicu Vâlcea county. Besides the classic bucket excavators, a modern excavation transport — dumping in-

station (with conveyor belt) was commissioned a few months ago. It is a real giant: the RC 1400 type excavator with bucket wheels. The bucket capacity is 1,100 cubic m. It was made in cooperation with Timișoara mechanical works and used in open-pit exploitation. Since May, when it entered the fabrication process, the huge equipment has excavated over 800,000 cubic m. of stone.

The above photo represents the second installation, a sister brother of the first one — the RC 400 type excavator — also produced in Timișoara, which will be soon commissioned. With it, the second sterilized technological line, which will work at a depth of 30 m; will be opened.

### INDUSTRY AND TOURISM

Since the beginning of the year, over 18,000 ships, barges, towboats, seagoing etc., crossed the Danube-Balkan Sea Canal, transporting important quantities of ore, coal, rolled sheet, cereals, cement, building materials, phosphates etc. The goods amount for domestic and foreign markets. Also, since the opening of the 1982 summer season, numerous Romanian and foreign tourists spending their vacations in the Black Sea coast regions made trips on this canal aboard the Milion and Flamingo passenger ships.



Parallel to the development of town planning in Alba Iulia municipality (the seat of Alba county), the new civic centre of the settlement is being built on the site of the old medieval city. It was provided with a modern commercial network located on the ground floor of apartment houses and in constructions. The most recent is that of "Unirea" department store with a commercial area of 10,000 sq.m. (top photo).

### INTERNATIONAL CONFERENCE ON QUANTUM ELECTRONICS

Over August 29—September 3, 1982 the National Physics Centre in Bucharest-Măgurele was the venue of the International Conference on Development Trends in Quantum Electronics. Its work was chaired by academician professor Ioan Urau. Chairman of the Scientific Committee was academician professor A.M. Prokhorov of the USSR, a Nobel prize winner, while professor Marin Iavas was chairman of the National Organizing Committee.

This international scientific event — the fifth in a series inaugurated in 1982 — debated the most significant breakthroughs in the field of lasers and their applications to the processing and characterization of materials (semiconductors, dielectrics); to developing materials with spe-

cial properties for chemistry, power engineering, communications and data processing, alignment and levelling, the manufacturing of complex equipment for various industrial, biological, medical uses.

The conference, which included 1000 specialists from 22 countries, academic members, university staff, young researchers, unfolded in plenary and parallel sessions.

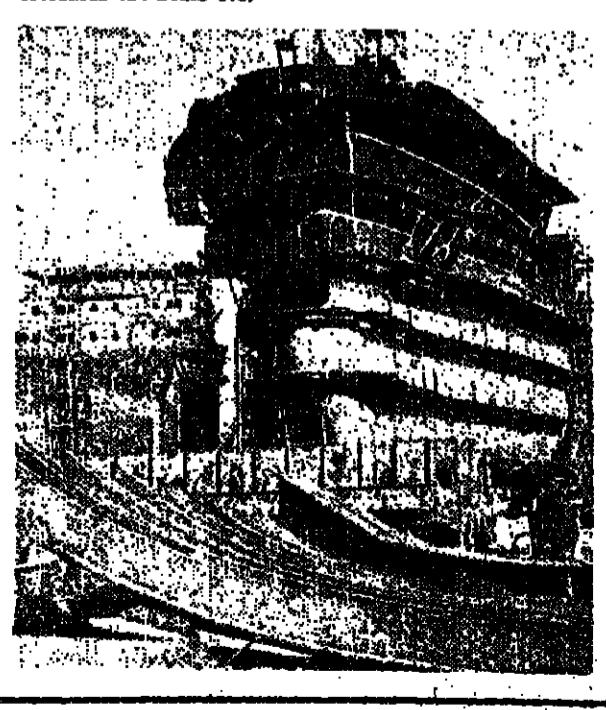
The participants in the conference debated the exhibition of lasers and their applications to the processing and characterization of materials (semiconductors, dielectrics); to developing materials with spe-

cial properties for chemistry,

## THE SHIP NO. 100

A celebration recently took place at the Brăila shipyard (the third largest Romanian unit in the field): the launching of the 100th ship, a 4,500 dwt cargo ship.

Between 1975—1982, the Brăila shipbuilders have constructed and launched 100 vessels: cargo ships with capacities ranging between 4,500—7,500 dwt, Atlantic-type superferries, oil tankers, 5,000 HP, Hercules towboats etc.



### INDUSTRY

### AND

### TOURISM

Engineering ABRAHAM SCHACHTER

## ON THE EVE OF A NEW ACADEMIC YEAR

From the sweet apprehension of meeting the unknown, probably the first "social emotion" of the little ones to the nostalgic experiencing by grandparents taking children to school, the excitement accompanying the beginning of every school year affects everyone, marking the event as a red-letter day in the calendar of our daily life.

But for this holiday to be a real one, for its light to shine unshaded, a whole army of people mobilize their energies and efforts yearly for this mid-September day.

The masons finishing the interiors of the new schools, the painters making desks and blackboards look brighter, the typographers printing the last pages of the new school-books make up the traditional detachment of this army. The fever of preparing the new academic year has contaminated however also sectors which not long ago were alien from teaching concerns.

The equipping of school workshops and labs for example, in step with the

updating and progress of technologies, in step with the scientific revolution has mobilized, besides specialized enterprises, tens of industrial units in the machine building branch, in the field of electronics or electrical engineering. Of course, schools and their equipment have priority. The academic year must be well prepared. In this simple rule is concentrated the whole country's concern in training those who, tomorrow will take over the social management at all levels and fields, the care for the youngest generation to be able to assume the responsibility of its own future in the best starting conditions.

In the following pages we will present last minute data concerning the preparation of the school year in Romania. They narrate the multitude and diversity of actions contributing to ensuring the necessary conditions so that on September 15, the opening of schools should have the preparations of an important event, considered as such in the whole world, both by the young and old.



### MICRO- PRODUCTION LAB

In summer, sophomore and junior students of the Chemical Technology within the Polytechnic Institute in Bucharest did not have a research-design activity in enterprises, but within their own faculty.

To this end was used the recently created Anti-Cancerous Drugs Synthesis Lab sponsored by the chemistry and chemical technology department.

The fact that we produce anti-leukemic drugs based on researches effected in collaboration with the Hematology Clinic of Fundeni Hospital in Bucharest" — told us chemist dr. Dumitru Ionescu, the head of the laboratory — "gives the students the possibility to be instructed in the methods of scientific work and the specialized scientific techniques. At the same time, we facilitate the students in the matters of improving their working place, ensuring the environment and the quality they carry out" (above and left photos).

## SUMMER COURSES

Scientific societies of the teaching staff organized, in July and August, scientific training and refresher courses, as well as creation camps for teachers of all specialties.

Thus, mathematics teachers in Predeal, physics and chemistry teachers in Bucharest, those of biology in Rimetea, Vatra Dornei, of history in Cluj-Napoca and of literature in Suceava.

An image of the Cluj-Napoca University Centre (left photo).



### SCIENTIFIC RESEARCH PROJECTS

The management of the Industrial High School no. 7 in Bucharest made up, for the coming academic year, a research plan including 14 themes including, besides the specialized teachers, engineers, foremen and students.

Certain research themes have a technical-applied character, elaborated together with various research institutes. Others have in view the increase of the instructive-educational process' efficiency.

Being well equipped, the high school's rooms, labs and workshops oblige corresponding conditions in resourcing the proposed themes.

## SCHOOL DAYS

Teachers and professors from all Romanian counties participated, during the summer vacation, in lecture and paper sessions, symposiums and professional debates with common title "School Days". The themes had in view

### ECOLOGY

Within the events devoted to the World Environment Day, a scientific competition with the theme "Technol's Contribution to the Activity of Preserving the Environment and Natural Monuments" was organized at Gherla, Hunedoara county.

The participants included students, as well as specialists in the ecology field from the host county and other counties.

Besides reading papers and debating them, the people present in these events also participated in interesting trips, alpinism demonstrations, scientific expeditions.



## MATERIAL BASE

The number of invention patents registered in the last year at the Polytechnic Institute's Institute of Pedagogical Research — as associate professor Constantin Berbea — has surpassed 100. The themes of these inventions, compared to the year 1981, when the higher education unit had only an area of 16,000 sq.m. for education and research, 620 teaching staff and 6,700 students, today, the Institute has over 20,000 buildings with 10,000 sq.m. for education and research, 1,300 teaching staff and 15,000 students who attend classes.

## THE CENTRAL PEDAGOGICAL LIBRARY IS REOPENING

At school begins again, the Central Pedagogical Library in Bucharest is resuming its usual activity. This institution — as director, George Anca, DSc — told us — puts out reference and bibliographic publications aiding the teaching staff to expand their professional horizon.

Now are available: Modernization, Invention and Education (Technical Information) which refer to everything that is new and valuable in the areas of pedagogy, educational physiology and the methods of teaching of the best subjects in Romanian pre-university education of all grades.

**COMMERCIAL PROLOGUE**

For the 1988-1989 academic year, shops concluded contracts with light industry enterprises and handicraft cooperatives units, a volume of garments specific to students, 50 percent bigger than last year. Knitted fabrics, more resistant and easy to maintain were used.

Also, each shop has experienced tailors ready to make any alterations demanded by parents. Of course, in order to satisfy the customers' demands, the shops' timetable has been prolonged.

At the same time, book shops were supplied with increased quantities of exercise books, pens, pencils, school bags, alphabet games necessary to students.

From the point of view of commerce, the academic year has already started.

**THE LAST DAYS OF THE SEASON AT COSTINESTI**

The last cultural events of the season are currently being staged in the youth's seaside resort of Costinesti.

From August 23 to September 8 the spa played host to the Youth's Book Days (fifth edition) on which about the pupils and students having a stay at the Black Sea Coast met with the editors of the Albatros Publishing House (which specializes in books for young readers), as well as from other publishing houses, and could buy the latest books.

The Costinesti Gala (fourth edition) afforded the public encounters with the laureates of the last Festival of Student Art and Creation. The shows began on September 8.

We are also monitoring that this summer Costinesti saw the organization of the national exhibition of artistic graphic art for youth (eighth edition), the youth's social dancing contest (second edition), the young actors' gala (sixth edition), the youth's

Gala (fifth edition), Jazz Costinesti (eighth edition) etc.

*(Top left : the Palace of Young Pioneers and Homeland's Falcons, landmark in the young generation's universe. Children acquainted with all the Palace's rooms, which can host more than 4,000 children, is not an easy undertaking. A brief passage through all these rooms provides a short history of all the concerns of today's children.)*

*(Left : the informatics laboratory where numerous groups of children work.)*

**PLASTER AND GLASS FIBRES**

Four thousand years ago the architects of ancient Egypt used plaster as a building material for the first time. In the 19th century, glass fibres were manufactured in England for the first time in the world. In the 1900s British specialists began studying a series of materials in combination with glass fibres.

After several years of study, researches and experiments, a collectivity from the Construction Faculty in Iasi, headed by associate professor Alexandru Ciocean, D.Sc. created a material opening new prospects in the domain of civil constructions: plaster reinforced with glass fibres. The new material, which the authors of an invention patented by GEM S.R.L. Office for Inventions and Marks was made of plaster, water and glass fibre waste.

Engineer Alexandru Ciocean appreciates today, after all tests concluded, that the economic effects of using prefabricated elements reinforced with glass fibres are beyond expectations. Thus, by using them in making separating walls in civil buildings, the concrete consumption is reduced by 70-100 percent, and that of reinforced concrete by 50-100 percent. At the same time,

labour productivity has grown. Panels of plaster reinforced with glass fibres are over 15 percent lighter than those classically made.

Other advantages recommending the material as a useful element in future constructions are: plaster reinforced with glass fibres is three times more resistant than common plaster and very useful in creating good phonics and thermal

insulations, etc. Compared to concrete, the new structures have special fire proof qualities.

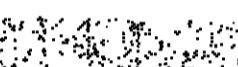
In fact, the specialists of the Construction Faculty in Iasi try to create other new materials, much cheaper and at the same time more supple, resistant and economically efficient.

Pages written by CONSTANTIN LUPU and M. CONSTANTINESCU

**YOUTH AND KNOWLEDGE**

In Bucharest's Youth Park, hundreds of platoons are on a feverish educational work. Here stands the imposing Palace of Young Pioneers and Homeland's Falcons, landmark in the young generation's universe. Children acquainted with all the Palace's rooms, which can host more than 4,000 children, is not an easy undertaking. A brief passage through all these rooms provides a short history of all the concerns of today's children.

Apart from the rooms reserved for the children's education, the studios for creative and performing activities one can notice the refurbished informatics room. In these research laboratories, the pioneers devise computer games, selecting from special catalogues the programs they wish. The Palace is a true "living factory" for moulding and revolutionary training of the young generation (Top : the Palace of Young Pioneers and Homeland's Falcons ; left : the informatics laboratory where numerous groups of children work).

**STUDENTSHIP IN ROMANIA**

Qualifications for Foreign Citizens' Admission to Romanian Institutes of Higher Learning

The prestige of Romanian education due to its rigour, its methodical and logical approach to the various questions, its concern with novelty, its practical orientation, permanently adapted to realities has prompted many young people from other countries to come to study in Romania. Most of them specialize in such high-tech areas as electronics, electrical engineering, aeronautics, petrochemistry, in various medical or agro-veterinary domains.

Foreign citizens can be admitted to extramural classes in economics, humanities, agronomics and sports higher education if they are gainfully employed in their countries.

Some youths from other countries enroll in graduate classes, or for taking their doctorate. The complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

In order to be eligible to enter a Romanian Institute of higher learning, candidates must have completed their high school education and taken their baccalaureate diploma or an equivalent certificate. Doctoral and postgraduate students must produce a diploma granted by a college or university, after the completion of a minimum four-year course of study in the field they wish to specialize in (below).

In graduate classes, or for taking their doctorate, the complete preparation lasts three years. A three-year course of postgraduate study is required in the medical profession. In order to earn a specialist's diploma in other fields, a one-year course

of advanced study must be completed.

Admission to doctoral study is based on a preliminary examination. Attendance is compulsory for earning a master's degree while extramural study is also possible to take one's doctorate.

No entrance examination is parallel for foreign citizens enrolling in higher education establishments in Romania. Nor does one have to pay tuition fees.

Architects, engineers, students in architecture, physical education and sports facilities must first pass a number of aptitude tests.

A ROMANIAN

NATIONAL FOREIGN TRADE ENTERPRISE

## CONFEX



## Confex EXPORTS

All kinds of garments for women, men, teenagers and children:  
casual wear • raincoats • sportswear • formal dress  
We guarantee the quality of our "Woolmark" pure wool products.

For additional information, contact:

**confex**

FOREIGN TRADE ENTERPRISE • ROMANIA • BUCHAREST  
7 ARMATA POPORULUI BOULEVARD • PHONE: 313751 • TELEX: 11195 C CONF R

## INVITATION TO HERCULANE AND FELIX SPAS

At this time of the year, the Herculane and Felix resorts, true gold mines of health, offer all the desired conditions for treatment and rest. Both localities are recommended for combating chronic rheumatic ailments, gynaecological, peripheral neurological, nutritional and metabolic diseases.

The two spas boast natural curative factors of high therapeutic value, modern treatment facilities and a highly qualified medical staff.

Medical procedures using the renowned Romanian medicinal products BOICIL,

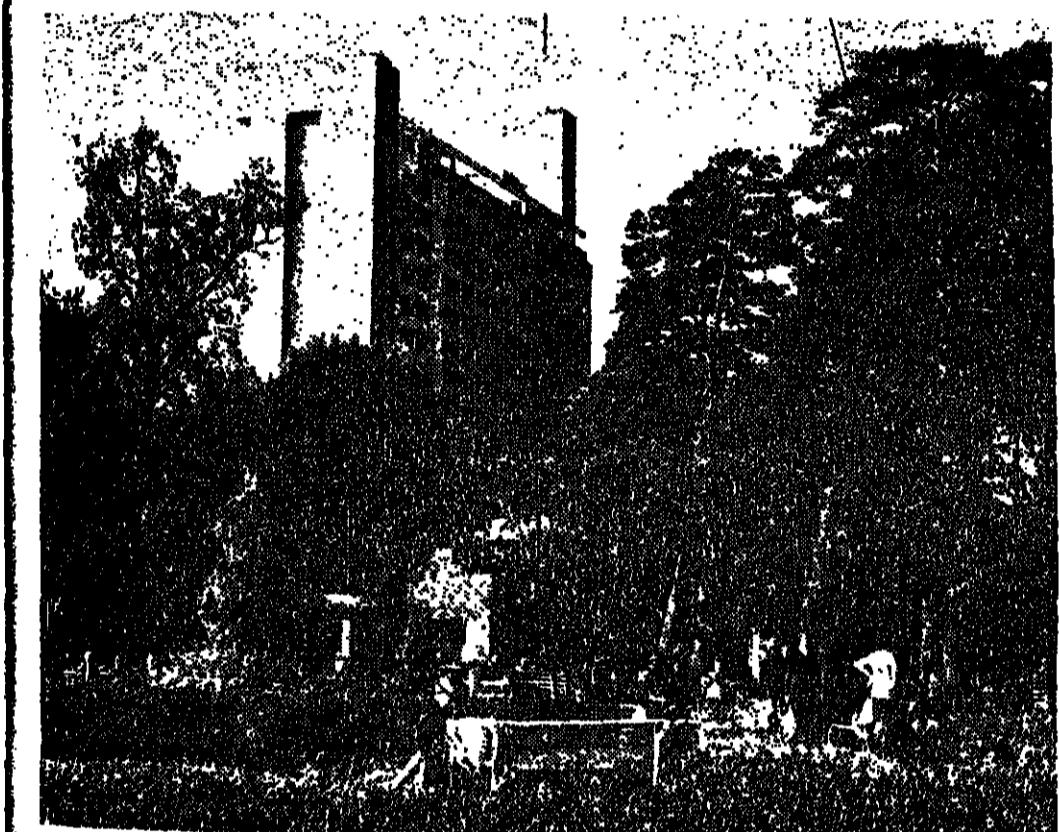
PELL-AMAR and GEROVITAL are successfully applied here.

Acupuncture is successfully practiced in Herculane.

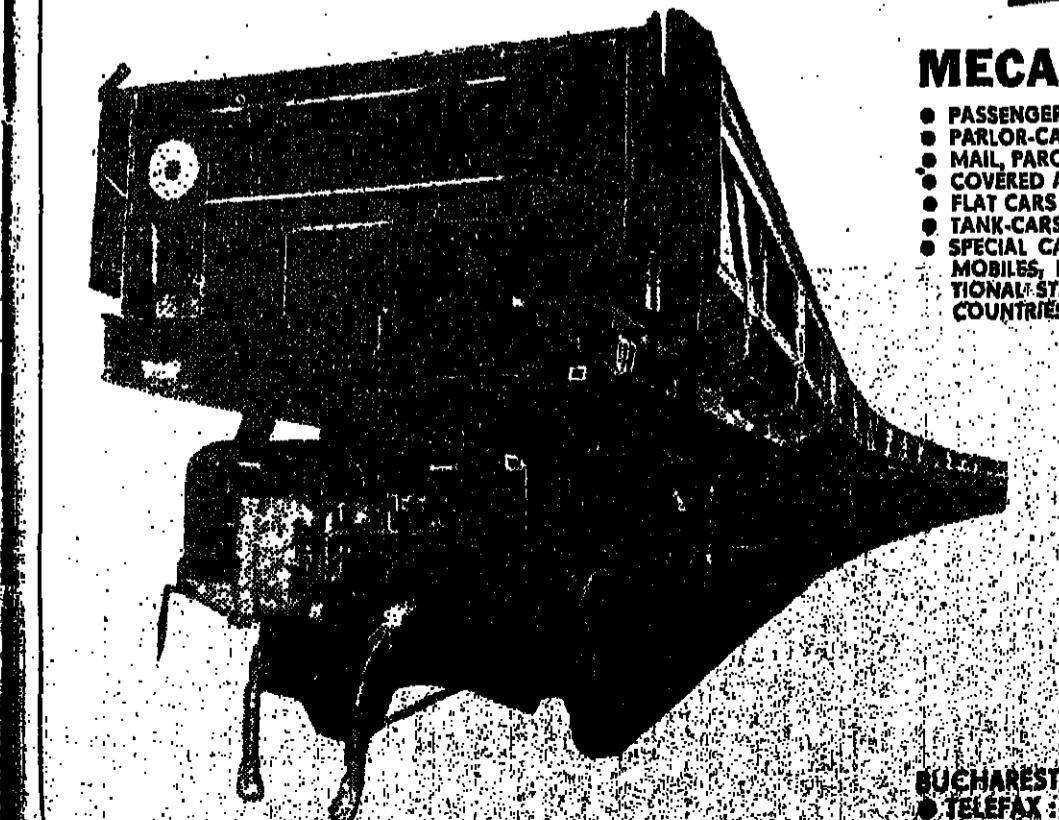
Pleasant vacations can be spent in both resorts.

The picturesque areas in which they are located, the recreational possibilities are serious arguments for your choosing these spas.

You can get additional information from your travel agent or Romania's travel information offices abroad (see the list of addresses of these offices).



FOR PASSENGER TRANSPORTATION IN CONDITIONS  
OF FULL SECURITY AND COMFORT  
FOR GOODS TRANSPORTATION  
IN OPTIMUM CONDITIONS



## MECANOEXPORTIMPORT OFFERS:

- PASSENGER COACHES
- PARLOR-CARS, DINING-CARS, SLEEPING-CARS
- MAIL, PARCEL AND SERVICE CARS
- COVERED AND OPEN FREIGHT-CARS
- FLAT CARS
- TANK-CARS
- SPECIAL CARS FOR ORE, COAL, CEMENT, SALT, FERTILIZERS, CEREALS, AUTOMOBILES, ETC. TRANSPORTATION MANUFACTURED IN KEEPING WITH INTERNATIONAL STANDARDS, AS WELL AS WITH REGULATIONS IN FORCE IN VARIOUS COUNTRIES.

**MECANO  
EXPORTIMPORT**  
BUCHAREST • ROMANIA

BUCHAREST, ROMANIA • 70 MIHAI LEMNESCU ST. • TELE: 10267  
TELEFAX: 111955 • PHONE: 111955 • POB: 22107

FOR ADDITIONAL INFORMATION  
AND FOR RESERVATIONS YOU CAN  
APPLY TO THE BUCHAREST-BASED  
"CARPATI" NATIONAL TRAVEL OFFICE,  
7 MAGHERU BOULEVARD,

TELEX 11270 CARPAT R, YOUR  
TRAVEL AGENT OR THE FOLLOWING  
ROMANIAN TRAVEL OFFICES ABROAD:

AUSTRIA  
RUMUNISCHE TOURISTENAGENZ — 1090 Vienna, Währingerstrasse 6-8, Telex 111075 CARPRO A, Phone 24 51 37

BELGIUM  
OFFICE NATIONAL DU TOURISME ROUMAN — Place de Brouckère 44-48, Brussels 1000, Telex 23447 MINTUR B, Phone 2 18 60 78

CZECHOSLOVAKIA  
RUMUNSKA TURISTICKA INFORMACNI KANCELAR — 1180 Prague 1, Palicka UL 2, 20, Telex 132161 ROTU C, Phone 2 10 32

DENMARK  
RUMAENIENS TURISTINFORMATION — Vesterbrogade 25 A, DK-1020 Copenhagen V, Telex 19410 ROMONT DK, Phone (01) 22 62 18

FRANCE  
OFFICE NATIONAL DU TOURISME ROUMAN — 38, Avenue de l'Opéra, Paris 75002, Telex 220105 OTRF F, Phone 7 42 27 16

3 22 25 42  
GREAT BRITAIN  
ROMANIAN NATIONAL TOURIST OFFICE — 28, Thurloe Place, London SW 7 4HP, Telex 202047 CARPAT G, Phone 01 31 21 90

3 74 29 53  
ITALY  
ENTE NAZIONALE PER IL TURISMO DELLA ROMANIA — 100, Via Torino, 00181 Rome, Telex 611138 ROMTUR I, Phone 06 52 22 00

3 22 62 43  
WEST GERMANY  
RUMUNISCHE TOURISTENAMT — 4000 Düsseldorf, Corrensstrasse 16, Telex 9387110 ONT D, Phone (0211) 37 10 17 — 13

RUMANISCHE TOURISTENAMT — 6000 Frankfurt/M., Neue Mainzerstrasse 1, Telex 411089 ROTUR D, Phone (0611) 22 62 18

3 02 20 28  
HOLLAND  
NATIONAL ROMENEENS WERKEERSBUREAU — Waterlooplein 103, Amsterdam C — 1017 XD, Telex 13021 CARON NL, Phone 020/210014

ISRAEL  
ROMANIAN NATIONAL TOURIST OFFICE — 1, Ben Yehuda St., Tel-Aviv, Telex 31010 ROTU IL, Phone 00 33 30

3 58 70 45  
SWEDEN  
RUMUNNSKA STATENS TURISTINFORMATIONSHYRA — Växjöhuset, Götgatan 33, S-311 20 Stockholm, Telex 10121 CARPAT S, Phone 0321 02 53 — 63

SWITZERLAND  
RUMUNISCHE INFORMATIONSBÜRO FÜR TOURISTIK — 8301 Zürich, Tulistrasse Schwyzergrasse 10, Telex 813150 INRU CH, Phone 01 21 11 30 — 31

3 02 20 28  
USA  
ROMANIAN NATIONAL TOURIST OFFICE — 573 Third Avenue, New York, N.Y. 10010, Telex 122989 RNTONNYC, Phone 697-0971